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MINOR STUDIES FROM THE PSYCHOLOGICAL LABORATORY OF CORNELL UNIVERSITY

COMMUNICATED BY E. B. TITCHENER and H. P. WELD

XXXV. ON THE PSYCHOLOGICAL RESPONSE TO UNKNOWN PROPER NAMES

By E. M. ALSPACH

This study deals with the first problem proposed by G. English¹ as worthy of additional experimentation; it is a detailed investigation of the reaction of a highly responsive observer to unknown proper names. English had substantiated the results of Kollarits² as regards the nature and conditions of the imagery aroused by proper names, but had failed to verify the suggestion of Claparède³ that there is any community of response to the physiognomy of proper names. Only one of her 8 observers showed any general tendency to be guided in his imagination of persons by the mere sound of the proper name. Further experimentation was necessary, however, before a detailed account of the nature of his response could be made, and this was left for the future.

Fortunately for our study the same observer, the same stimuli, and the unpublished reports of his responses to these stimuli were available. We undertook, therefore, to repeat that part of English's experiment which had to do with the response to nonsense names. We hoped thus to test the stability of the observer's reaction after a fairly long interval of time, to compare the associative factors involved in each group of data, and to obtain fuller characterizations of his meanings and descriptions of the correlated processes.

Method. The stimuli consisted of 50 meaningless words, as follows: Chérin, Póisher, Kílom, Koikert, Vázal, Dáwflsp, Zóquē, Spren, Dáwthō, Rupzóiyat, Blag, Lísrix, Thaspkúwhin, Kírdfaumish, Génras, Tháchō, Brob, Zóitū, Kóldak, Múrbix, Chermtgáwkonv, Bóppum, Vúshap, Grib, Wáthshóiquol, Móiki, Hoxzáuw huk, Gáwthū, Zéthē, Gówsū, Déznep, Wítaw, Thóbonf, Mávquawpünt, Stisk, Tówbant, Tāquū, Skamth, Quajnumeth, Búnoy, Drup, Gúklal, Pófmoj, Spux, Jíkel, Snemth, Thúbtawkar nth, Línrēwex, Gronch, Túpjoz.⁴

The observer sat with eyes closed, and was given a warning signal before the stimulus. The stimuli were presented auditorily; every name was pronounced three times; the experimenter was careful to pronounce it slowly, distinctly, and (as nearly as possible) always in the

¹ G. English, *Amer. J. Psych.*, 17, 1916, 417f.

² J. Kollarits, *Arch. de Psychol.*, 14, 1914, 225f.

³ E. Claparède, *Arch. de Psychol.*, 14, 1914, 310f.

⁴ For the method of obtaining these words, see English, *op. cit.*, 432. Rules of pronunciation are as follows: á as in at, â as in fate, aw in awning, au as ow in how, ě in met, ē in mete, ĩ in in, ĩ in fine, ô in hot, ô in note, oi in oil, ũ in tub, ũ in tube, ũ as oo in spoon, ch in church, th in thistle, g in get, j in judge, other consonants as usually in English. Unmarked vowels are short.

same manner. The instructions were: "I am going to speak to you the name of a person; the name will be repeated three times; you are to describe that person to me. After the report is completed, I shall call for introspections." Greater emphasis than before was placed upon completeness of the introspective report. In our experiment, *O* was not asked to repeat the word unless he thought there had been incorrect auditory perception of it.⁵

The observer was Professor W. S. Foster, whose long experience in experiments of similar nature contributed not a little to the success of our investigation.

Results. It may be well to state at the outset that we have here a problem in meaning. *O* is given an intrinsically meaningless word and is instructed to put the meaning-of-a-fitting-person upon it. The attitude, therefore, which *O* takes toward the experiment is a meaning and not a process attitude, and the results are, in the first instance, statements of meaning and not descriptions of psychological processes. Since, however, *O* was also asked to report as best he could the nature of his meanings and the correlated processes, we have a second set of results which are, in part at least, psychological. In our presentation of the results we shall, consequently, attempt to treat separately the two sets of data: first, we shall give a brief account of the general attitude of *O* upon his acceptance of the instruction; secondly, we shall discuss the characterizations of the 'persons meant' in English's experiment and in our own; and finally we shall state the nature of *O*'s meanings and their correlated processes.

(1) *O* characterized his attitude as a literary, imaginative mood in which he was set to construct *the* most fitting person. He understood 'person' to signify 'character,' 'mode of action', as much as (or more than) 'physical appearance'. Furthermore, he was disposed to apperceive correctly the sound of the word, and in case of doubt he pronounced the word before beginning the construction.

(2) *O* was able to construct a 'most fitting person' for every one of the 50 stimuli in two different experiments, *i.e.*, in that of English as well as in our own. Fifteen months had elapsed between the completion of English's experiment and the beginning of ours. *O* recalled the general nature of the previous response in only four cases, and reports indefinite recognition of the stimulus-word in six other cases. Since we desire to institute a quantitative as well as a qualitative comparison of the responses in the two groups, we shall, in what follows, disregard these ten cases.

The Associative Factors which Conditioned the 'Fitting Person'. There seem to be five groups of factors which conditioned or suggested the person that best fitted the name. (1) *Nationality.* In about 30% of cases in A and 15% in B,⁶ the word was apperceived as sounding like Russian, Chinese, *etc.*, and the person is described (on the basis of suggestion by nationality) as having characteristics typical of the race. Examples are: *Witaw* (A) "Snap of my eyes toward Siberia and immediately a visual image"; *Hoxzauwhuk* (B) "Said the word over and the word 'Eskimo' came with a visual image of an Eskimo dressed in furs"; *Quajnumeth* (A) "As soon as I heard the word the first time it sounded rather familiar to me, then a snap of my eyes towards

⁵ In several cases, even the third repetition did not enable *O* later to repeat the word exactly as *E* had said it. Thus: *Vazal* was repeated as *Bazal*, *Thaspkuwhin* as *Tasquwhin*, *Chermigawkonv* as *Tchirkmgonv*.

⁶ We shall, hereafter, designate English's experiment as A, and our own as B.

Mexico, a visual image of an old Indian and the attitude which meant that I knew that he was mild, intelligent, and a solid and substantial person". (2) *Similar name*. In approximately 7.5% of the cases in A and 12.5% in B, O apperceived the nonsense-name as related to a similar name, and the person seems to have been described, to a considerable extent, from this similar name. Examples: *Boppum* (A) "Said Bottom at once; with a visual image of Bottom as I've seen him in the play with a feeling for all that goes with him. *Boppum* seems even better than Bottom for the character because the p's are fatter and less educated sounds than the t's. Tried to get a different man, but simply got a less definite, fat and brainless one"; *Deznezp* (A) "As soon as I heard the word, Desmond, the 'Desperate Desmond' of the funny sheets came up verbally and visually and seemed to fit"; *Zoque* (A) "A visual image of X (a real person of the character and appearance described) whose name is Sophie; and I took up the attitude I feel towards her. I did not say or hear the word Sophie, but *Zoque* at once took on the Sophie meaning". (3) *Auditory-verbal associations*. In about 22.5% of A and 17.5% of B O seems to have described the person from his auditory-verbal associations. *Skamth* (B) "Repeated the word, which had the meaning of scamp. At once had the visual image of the person, with the attitude I have for a clever rogue, a sort of admiration-disgust"; *Gronch* (A) "A kind of surly, grouchy, piggish, selfish, self-satisfied beggar; has a thick, heavy mustache; grumbles. Thought of *grouch* and *grunts*"; *Murbir* (A) "A shady character who is afraid of the police; a sneaky fellow; some rather shallow cunning; does not do things on his own initiative, but would make a good tool for a clever criminal. Repeated the word two or three times and word 'murder' and German 'Mörder' came into my head." (4) *Sound of word*. In 25% of A and 35% of B O was not conscious, upon hearing the word, of any such sensible associations, but indicates that it was the mere sound of the word from which he described. *Snemth* (B) "Feeling came at once for a character in Dickens; with a visual image; *Sn* is a mean sound; the shortness of the word seems to signify that you have not much respect for him"; *Mauquawpunt* (A) "Repeated the word a number of times and got the feeling for a jouncing, jumpy movement. The name runs off the tongue like an Indian dance; he was a North American Indian, I guess; at least a barbarian"; *Grib* (A) "Had a feeling for him as quickly as I heard the word; felt *Grib* myself, i.e., obstinate, persistent, muscular, common sense; as if I would fight for anything I thought mine; would be surprised if anyone should rebel against my authority"; *Kilom* (B) "A person who often does ludicrous things; gives me a readiness to laugh but I have no notion why. *Ki* rather than *lom* is important in this desire to laugh; the laugh would be a cackling one since the person is ludicrous; an abbreviation and cut-offness about the syllables that suggests this"; *Poisher* (B) "The striking part of the name is *Poish*; *P* and *Sh* give smooth and slow and *Poish* all together means big". (5) *Combination of factors*. 10% of the cases of A and 10% of B show responses conditioned by more than one of the above. *Linrewex* (A) "A Welshman; the name is Welsh; but *Linrewex* is light and gives me the feeling of ragtime, so he may be a dancer". (Here there is a definite shift from nationality to mere sound of name.) There are several words in which the observer reports that the different parts of the word are contradictory and seem to lead to contradictory responses. *Thaspkuwihin* (B) "There are contradictions in that word; the nationality part of the word taken alone would give a different person than is described. *Thasp* is a miner; a worker in

metals, pounds with a hammer. *Whin* is a frail man with a high-pitched, nasal voice. *Ku* might be a Chinaman"; *Thubtaukarnth* (A) "*Thub* is clumsiness, thick-fingeredness; might say that a man is *thubby*, meaning that he is all thumbs. *Tau* and *karnth* would signify that the person is accurate and definite"; *Gawthu* (A) "There seems to have been a conflict of determinations this time, for the things that come to me are Dawtho (who was a Greek), a French criminal whose name is like Gawthu; or some Indian; all these things seem to work by selection; might be a policeman"; *Rupzoiyat* (B) "The different parts of the word contradict each other to some extent; the personal appearance is mostly *rup*; his nationality is the whole word."

There remain 5% of A and 10% of B, in which O was unable to indicate at once any associative factors; but upon letting his associations run (in a sort of 'psychoanalysis'), he found words which suggest that the disposition for a similar name or an auditory-verbal association may have been effective. *Koikert* (A) "A girl, clerk in a department store. It just struck me now that the sound may have reminded me of 'clerk' though I did not have *kert* meaning 'clerk' in mind before;" *Stisk* (B) "A woman, rather tall, bony; angular, rigid, little bit wooden; a very formal person. It seemed to me later that *Stisk* might be Norwegian for 'wood';" *Tupjox* (A) "A mighty smart jewel-dealer. This is probably because *Tupjox* is like 'topaz,' but I did not think of this or know it at the time."

It will be observed that the sound of the name was effective in a much larger percentage of cases than former work would lead us to expect. In the hope of showing the correlation between sounds, on the one hand, and personal characteristics, on the other hand, we have constructed the following table. We have divided the reports into two groups, which we call X and Y. X includes, in general, those letters, diphthongs, syllables or entire words which were designated as broad, big, smooth, slow, etc. Y includes the opposite class of thin, definite, snappy, clean-cut, etc.

GROUP X

Big	Smooth	Slow	Broad, Generous	Soft
bl g chō	p sh rās sū	p sh tāquū blāg	thūb p gāw kōnv ōw ō rūp	thă mōj pōf quāj mēth

GROUP Y

Snappy	Active	Clean-cut	Definite	Thin	Sharp	Hard
Koikert gēn Köldāk	zoiyāt kird	Koikert Köldāk tōw Kilom Līnrēwēx kird	gēn Sprēn kārnth	fīsp Lisrīx īn bīx rīn whīn Līnrēwēx	Köldāk tōw Brōb Grīb tūp	chō Brōb thāsp Stisk

From the table it is evident that the consonants ch, th, s, sh, p, b, g, j and the vowels u, ow, and ō are characteristic of Group X, while k, d, t, x, n and i, e, a, oi, ô are characteristic of Group Y. We refer the reader, on this point, to L. A. Sherman, *Analytics of Literature*, 1893, 21 ff.; L. P. Smith, *The English Language*, 1912, 102 ff.; W. Wundt, *Die Sprache*, I, 1900, 326 ff.

It is possible that this factor may have been effective in other cases, such as nationality, or auditory-verbal association. The observer reported, in fact, that "other things being equal, a long name was a bit important, a short one a little contemptuous". The following examples are typical: *Quajnumeth* (A) "The long name seemed just right for an old man; *meth* is mildness and *nu* is intelligence"; *Dawtho* (A) "It seemed as if the vowel sounds *aw* and *o*, being broad, generous sort of sounds, go with broad shoulders and good nature"; *Koldak* (B) "The man is quick tempered, vicious; jumps when spoken to. The word is like the sharp, clean-cut ticks of a metronome. *Koltik*, *Galtik*, *Naltik* could be the name and there would be no difference. *Baltik*, *Faltik*, and *Maltik* would be different because not so snappy".

Uniformity of Response in the Two Experiments. How did the observer's response to the nonsense-names in the second experiment compare with those given fifteen months before? The answer to this question should give some indication of the stability of the association between name and 'fitting person'. We have, therefore, compared every one of the 40 responses to the same stimulus-word in the two experiments, on the basis of sex, nationality, size, strength, age, characteristics of movements, temperament, intellect, and social status of the individuals described. These categories are necessarily comprehensive. Thus, 'size' includes both height and weight; 'strength' the person's build and muscular strength. 'Age' was divided into 4 groups: (1) up to 17 years; (2) from 18 to 25 years; (3) from 25 to 45 years; and (4) from 45 on. 'Characteristics of movements' embrace quickness or slowness of movement, clumsiness or deftness, general activity, etc. 'Temperament' includes good nature or the lack of it, artistic temperament or the opposite, care or carelessness, etc. As 'intellect' we considered general efficiency and common sense as well as actual intelligence. 'Social status' was often determined by occupation. In some of these categories reports are often lacking; and in consequence of the variety of descriptive terms used, interpretation and numerical determination of the correspondences and non-correspondences between the first and second descriptions are often impossible. In the following table, Group I comprises the total number of times any single category, such as age, sex, etc., was given in Experiment A; Group II, the total number of times the same category was given in Experiment B; Group III, the total number of times the category was given, for the same name, in both A and B; and Group IV, the number of times that the response to the same name corresponded. By a simple subtraction, then, the reader can estimate the number of non-correspondences between the two experiments.

A consideration of this table shows two things: (1) *O* tends to give certain categories more often than others in both experiments; e.g., sex, age and size are given much more often than strength and intellect. (2) There are more correspondences than non-correspondences in all categories except nationality, 7 *versus* 10; temperament, 6 *versus* 11; and social status, 3 *versus* 8.

The correspondences, worked out in percents, give an average of 61%, with a mean variation of 18%; and a range from 100% correspondence for strength to 27% for social status. Since the chance corre-

spondence could never be more than 50% (sex), and in most of our cases would be very much less (*e.g.*, social status), it appears probable that a fair degree of significance attaches to every one of our correspondences.

Group I (Given in A)	Group II (Given in B)	Group III (Given in A and B)	Group IV (Corresponds in A and B)
39	39	Sex 38	24
29	23	Nationality 17	7
23	32	Size 16	10
9	12	Strength 3	3
37	38	Age 37	30
15	15	Movements 5	3
24	29	Temperament 17	6
14	14	Intellect 5	4
21	20	Social Status 11	3

(3) *Type of Meaning and Correlated Processes.* The meanings of which *O* was aware and from which the most fitting persons were constructed were vague and indefinite rather than concrete, and our account of them will of necessity be general rather than detailed. The course of the meaningful experience was somewhat as follows. The word had the meaning of a person put upon it by the instructions; when heard, a new meaning (that of the 'most fitting person') was immediately given it by way of the determining factors which we have listed above. The new meaning was of the type which Messer has described as a *Sphärenbewusstsein*,⁷ and which *O* in other experiments has described as 'the stimulus-object is this kind of feel'.⁸ This 'feel' always pointed in a certain direction; if, *e.g.*, the associative factor was 'na-

⁷ A. Messer, Experimentell-psychologische Untersuchungen über das Denken, *Arch. f. d. ges. Psychol.*, 8, 1906, 77-80.

⁸ H. P. Weld, Meaning and Process as Distinguished by the Reaction Method. *Studies in Psychology: Titchener Commemorative Volume*, 1917, pp. 181-208.

tionality', then the meaning pointed in the direction of 'a person of that nationality'; if the association was by way of a similar name, then the 'feel' was for a person like him who has the similar name. Furthermore, the 'feel' was often empathic, and the empathy was of three forms. In some cases, the 'feel' was *for* the person, *i.e.*, as *O* would feel if he were in the presence of the person; in others, it was *toward* the person, *i.e.*, as *O* would feel when thinking about the person; in still others it was *of* the person, *i.e.*, as *O* would feel if he were the person. There were times, however, when *O* finds it difficult to state the direction in which the 'feel' points: "Part of the time I can't say myself which the attitude is: toward the sound of the word altogether, toward the person, that which the person himself would take, or a combination of all of these. I think that always it had a part of the first in it; it is an attitude that the sound of the word stirs up. Sometimes I think of the sound of the word merely as sound, sometimes of the length or the kinaesthetic facility (or the opposite) of the word. The position of the face, vocal cords and body is expressive of feeling; sometimes there is the attitude which is the meaning of real words of a sound similar to the one in question."

It is characteristic of *O* that this meaning almost invariably precedes the description of the 'fitting person'; only occasionally does the sound of the name at once touch off a verbal description or an object-meaning (visual image of the most fitting person). When the visual image was present without a definite feeling, there was a tendency to let the associations run and to justify the visual image, and the verbal description seemed then to make for definiteness. In the great majority of cases, however, *O* begins his description when he "knows what sort of person fits", when there is formed a "conscious attitude" representative to some degree both of the stimulus-word and of 'that sort of person'. He says: "The feeling seems to touch off scraps of visual imagery and throw me into a slightly more definite kinaesthetic attitude and so touch off the description". Again, "The whole thing of what to say seems complexly determined; but seems to be summed up in a 'feeling.' The description seems to be a sort of explication of the feeling or of the visual image touched off by the feeling."

On the side of correlated processes, *O*'s conscious attitude was partially analyzed by a description of definite kinaesthesia, organic sensations, *etc.* These processes were usually indicated as the basis of expressive movements when *O* put himself in the place of the person described: *Bunoj* (A) "A saucy, impudent person whose nationality I do not know, but I do know that he stirs me up to antagonism and that I do not like him. I puckered up my face and almost got angry and aggressive"; *Skamth* (B) "Scamp. My attitude is that which I have for a clever rogue; a kind of admiration-disgust; the attitude of pushing out of face and lips and an intense stare"; *Witaw* (B) "A visual image of a dog; tended to set teeth or snarl"; *Blag* (A) "Feel blaggy myself; as if to say 'Oh, pooh, that isn't right'"; *Dawfishp* (B) "An unemotional person; chilly; either a man or a woman; feeling was to put arms out and drop head on side, expressive of off-hand, not especially interested attitude"; *Chermtgawkonv* (A) "Gives me definite bodily sets". Sometimes the kinaesthesia was definitely verbal: *Lisrix* (A) "Slips easily off your tongue; no effort; do not have to pay much attention to saying it"; *Zau* (*Hoxzawwhuk*) (A) "Is like 'whoosh', the sound that is made by something going through the air; gave me the notion of 'zouee'"; *Mavquawpunt* (A) "Repeated the word a number of times and got the feeling for a jouncing, jumpy

movement". The specific meaning of 'nationality' or of 'that particular person' was usually carried by eye-kinaesthesia; a movement of the eyes in the direction of the country or of the place associated to the particular person. Visual imagery served in making more concrete the nature of the fitting person.

We conclude that in the case of this 'highly responsive observer' the sound of the word is a determinant of the 'most fitting person' in about 30% of the cases, and that on the whole the correspondence of his responses to the same name is considerably more than chance would allow. The characterization of the fitting person is usually preceded by a meaning of an attitudinal sort which points toward or in the direction of the fitting person, and the characterization itself may be regarded as an explication of this meaning. Kinaesthetic and organic sensations are reported as the correlates of the meaning, and verbal and visual processes carry the more concrete meanings which present themselves in the course of the explication.

XXXVI. THE PSYCHOLOGICAL BASIS OF APPETITE

By E. G. BORING and AMY LUCE

The psychological establishment of hunger as a kinaesthetic complex of pressure and pain and its physiological ascription to certain 'hunger-contractions' of the stomach¹ led the early investigators to distinguish hunger from appetite, which was used as a term to denote a desire for food, occurring in the absence of sensory, muscularly conditioned, stomachic hunger.² Since the taking of food in the early part of a meal inhibits hunger-contractions and the correlated hunger-sensations, the desire for food which persists to the dessert can not be hunger and has been put forward as the type of appetite. There are various ways in which this desire might be psychologically mediated: the appetite-meaning might consist of an attitude toward food, as would be the case if it consisted merely of a sensorimotor disposition to take and eat food; or it might be carried by specific ideas which involve a food-reference; or it might reduce to a particular pattern of sensations or a particular quality of sensation which, as pattern or quality, is itself appetite.³ We should have, in the first case, an action-consciousness and, in the second case, an ideational consciousness, of which neither would be psychologically peculiar; appetite would then possess individuality of meaning but not of mental process or pattern. In the third case we should have a truly psychological distinction. It is some such sensory account of appetite that Carlson appears to imply when he states on the basis of experimental work, that "the gastric mucosa is

¹ A. J. Carlson has summarized this experimental work in *The Control of Hunger in Health and Disease*, 1916; see esp. pp. 16-83.

² W. B. Cannon and A. L. Washburn, *An Explanation of Hunger*, *Amer. J. Physiol.*, 29, 1912, 441; Carlson, *The Relation between the Contractions of the Empty Stomach and the Sensations of Hunger*, *ibid.*, 31, 1913, 185ff.

³ *Locc. cit.*; E. G. Boring, *Processes Referred to the Alimentary and Urinary Tracts: A Qualitative Analysis*, *Psychol. Rev.*, 22, 1915, 315f.